

WHAT IS CLAIMED IS:

1. A method for identifying a logic event in a logic environment, the method comprising:
  - (a) providing one of a reference parameter and a next reference parameter;
  - (b) receiving starting event information corresponding to a logic event, ending event information corresponding to the logic event, and at least one identification parameter information associated with the logic event;
  - (c) determining an actual parameter corresponding to at least one of a duration parameter and a capacity parameter corresponding to the logic event;
  - (d) comparing the actual parameter to the reference parameter and providing a comparison result; and
  - (e) if the comparison result at least indicates that the actual parameter is no less than the reference parameter, performing at least one of replacing the reference parameter with the actual parameter to provide the next reference parameter and providing the at least one identification parameter.
2. The method of claim 1 further comprising:
  - (f) providing a repeat condition; and
  - (g) repeating (a) to (e) until the repeat condition is satisfied.
3. The method of claim 1, wherein the method includes performing in (e) both of replacing the reference parameter and providing the at least one identification parameter based on the comparison result.
4. An apparatus for identifying a logic event in a logic environment, the apparatus comprising:
  - a control arrangement for providing one of a reference parameter and a next reference parameter;
  - a receiving arrangement for receiving starting event information corresponding to a logic event, ending event information corresponding to the

logic event, and at least one identification parameter information associated with the logic event;

a determining arrangement for determining an actual parameter corresponding to at least one of a duration parameter and a capacity parameter corresponding to the logic event; and

a comparing arrangement for comparing the actual parameter to the reference parameter and providing a comparison result;

wherein if the comparison result at least indicates that the actual parameter is no less than the reference parameter, the control arrangement causes the performance of at least one of replacing the reference parameter with the actual parameter to provide a next reference parameter and providing the at least one identification parameter.

5. The apparatus of claim 4, wherein the control arrangement causes the performance of both of replacing the reference parameter and providing the at least one identification parameter.

6. An apparatus for identifying a logic event in a logic environment, the apparatus comprising:

means for providing one of a reference parameter and a next reference parameter;

means for receiving starting event information corresponding to a logic event, ending event information corresponding to the logic event, and at least one identification parameter information associated with the logic event;

means for determining an actual parameter corresponding to at least one of a duration parameter and a capacity parameter corresponding to the logic event;

means for comparing the actual parameter to the reference parameter and providing a comparison result; and

means for performing at least one of replacing the reference parameter with the actual parameter to provide a next reference parameter and providing the at least one identification parameter, if the comparison result at least indicates that the actual parameter is no less than the reference parameter.

7. The apparatus of claim 6, wherein the means for performing performs both of replacing the reference parameter and providing the at least one identification parameter based on the comparison result.

8. A set of instructions residing in a storage medium, the set of instructions capable of being executed by a processor to implement a method for identifying a logic event in a logic environment, the method comprising:

- (a) providing one of a reference parameter and a next reference parameter;
- (b) receiving starting event information corresponding to a logic event, ending event information corresponding to the logic event, and at least one identification parameter information associated with the logic event;
- (c) determining an actual parameter corresponding to at least one of a duration parameter and a capacity parameter corresponding to the logic event;
- (d) comparing the actual parameter to the reference parameter and providing a comparison result; and
- (e) performing at least one of replacing the reference parameter with the actual parameter to provide a next reference parameter and providing the at least one identification parameter, if the comparison result at least indicates that the actual parameter is no less than the reference parameter.

9. A method for performing at least one of measuring a logic event, determining histogram information of the logic event and identifying a logic event in a logic environment, the method comprising:

- (I) selecting at least one of a first mode for measuring the logic event, a second mode for determining the histogram information of the logic event and a third mode for identifying the logic event so as to provide at least one selected operating mode; and
- (II) performing at least one of the first mode for measuring the logic event, the second mode for determining the histogram information of the logic event and the third mode for identifying the logic event based on the at least one selected operating mode.

10. The method of claim 11, wherein the third mode for identifying the logic event includes:

- (a) providing one of a reference parameter and a next reference parameter;
- (b) receiving starting event information corresponding to a logic event, ending event information corresponding to the logic event, and at least one identification parameter information associated with the logic event;
- (c) determining an actual parameter corresponding to at least one of a duration parameter and a capacity parameter corresponding to the logic event;
- (d) comparing the actual parameter to the reference parameter and providing a comparison result; and
- (e) performing at least one of replacing the reference parameter with the actual parameter to provide a next reference parameter and providing the at least one identification parameter, if the comparison result at least indicates that the actual parameter is no less than the reference parameter.

11. A set of instructions residing in a storage medium, the set of instructions capable of being executed by a processor to implement a method for performing at least one of measuring a logic event, determining histogram information of the logic event and identifying a logic event in a logic environment, the method comprising:

- (I) selecting at least one of a first mode for measuring the logic event, a second mode for determining the histogram information of the logic event and a third mode for identifying the logic event so as to provide at least one selected operating mode; and
- (II) performing at least one of the first mode for measuring the logic event, the second mode for determining the histogram information of the logic event and the third mode for identifying the logic event based on the at least one selected operating mode.

12. The set of instructions of claim 12, wherein the third mode for identifying the logic event includes:

- (a) providing one of a reference parameter and a next reference parameter;

- (b) receiving starting event information corresponding to a logic event, ending event information corresponding to the logic event, and at least one identification parameter information associated with the logic event;
- (c) determining an actual parameter corresponding to at least one of a duration parameter and a capacity parameter corresponding to the logic event;
- (d) comparing the actual parameter to the reference parameter and providing a comparison result; and
- (e) performing at least one of replacing the reference parameter with the actual parameter to provide a next reference parameter and providing the at least one identification parameter, if the comparison result at least indicates that the actual parameter is no less than the reference parameter.

13. A system for performing at least one of measuring a logic event, determining histogram information of the logic event and identifying a logic event in a logic environment, the system comprising:

- a system controlling arrangement;
- a comparing arrangement coupled to the system controlling arrangement;
- a first memory arrangement coupled to the system controlling arrangement and to the comparing arrangement;
- a first counting arrangement coupled to the system controlling arrangement, the comparing arrangement and to the first memory arrangement;
- a second memory arrangement coupled to the system controlling arrangement and having a coupling for receiving identifying information for a logic event; and
- a second counting arrangement coupled to the second memory arrangement.

14. The system of claim 13, wherein the system controller arrangement:

- (I) selects at least one of a first mode for measuring the logic event, a second mode for determining the histogram information of the logic event and a third mode for identifying the logic event so as to provide at least one selected operating mode; and

(II) operates at least one of the first mode, the second mode and the third mode based on the at least one selected operating mode.

15. The system of claim 14, wherein the third mode for identifying the logic event includes:

- (a) providing one of a reference parameter and a next reference parameter;
- (b) receiving starting event information corresponding to a logic event, ending event information corresponding to the logic event, and at least one identification parameter information associated with the logic event;
- (c) determining an actual parameter corresponding to at least one of a duration parameter and a capacity parameter corresponding to the logic event;
- (d) comparing the actual parameter to the reference parameter and providing a comparison result; and
- (e) performing at least one of replacing the reference parameter with the actual parameter to provide a next reference parameter and providing the at least one identification parameter, if the comparison result at least indicates that the actual parameter is no less than the reference parameter.